Amendment to the Drawings

The attached drawing sheet includes a change to FIG. 3. This sheet, which includes FIG. 3, replaces the original sheet including FIG. 3. In Figure 3, the internal combustion engine (81) and the two-step valve activation mechanism (79) have been shown schematically using boxes.

Attachment: Replacement Sheet
Annotated Marked-up Drawing

Remarks

Applicant respectfully requests reconsideration of the present application in view of the above amendments and following remarks. Claims 1-3, 5 and 11 have been amended. Claim 4 has been cancelled and claim 12 has been added. Therefore, claims 1-3 and 5-12 are pending in the present application.

The drawings were objected to under 37 C.F.R. § 1.83(a) because the drawings must show every feature of the invention specified in the claims. *See Office Action*, pg. 2. In particular, the Examiner stated that the internal combustion engine and the two-step valve activation mechanism specified in claim 10 must be shown in the drawings. *See id.* Applicant submits that the internal combustion engine and the two-step valve activation mechanism are shown in original FIG. 3 and are labeled with reference numerals 81 and 79, respectively. *See* FIG. 3; *see also Specification*, pg. 7, lines 6-10. In an effort to further show the internal combustion engine and the two-step valve activation mechanism in the drawings, FIG. 3 has been amended to schematically show the two-step valve activation mechanism (79) and the internal combustion engine (81). For at least the aforementioned reasons, Applicant requests that the above-referenced amendments to the drawings be entered and that the objection to the drawings be withdrawn.

Claims 2, 10 and 11 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. *See Office Action*, pgs. 3-4. In particular, the Examiner stated that the recitation of "reducing said first pressure to zero" in claims 2 and 11 is vague and indefinite because claims 1 and 10

recite the "first pressure" as being "high." *See id.* Therefore, claims 2 and 11 have been amended to state that the first pressure is reduced to a third pressure, wherein the third pressure is zero. In view of the above, Applicant requests that the rejection of claims 2, 10 and 11 be withdrawn.

The Examiner also rejected claim 10 because it does not recite any elements which are specific to "an internal combustion engine." *See Office Action*, pg. 4. However, claim 10 does recite a two-step valve actuation mechanism, which is claimed structure specific to the internal combustion engine. *See infra*, pgs. 14-15. As such, Applicant submits that claim 10 is complete and requests that the rejection of claim 10 be withdrawn.

Claims 1-3 and 6-11 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,174,338 to Yokota et al. (" the Yokota reference"). Applicant respectfully traverses this rejection.

Amended claim 1 is directed to a switchable fluid control valve assembly for controlling flow of a hydraulic fluid therethrough to an apparatus. The valve assembly includes means for providing flow of the hydraulic fluid therethrough in a first operating mode at a first and high hydraulic pressure. The valve assembly also includes means for regulating flow of the hydraulic fluid therethrough in a second operating mode at a second and lower hydraulic pressure, wherein the second pressure is greater than zero. Further, valve assembly includes means for switching alternatively between said first and second modes.

Amended claim 1 includes at least one means plus function claim limitation. Therefore, the application of a prior art reference to a means plus function claim limitation first requires that the prior art reference perform the identical function specified in the claim. *See* MPEP 2182, pg. 2100-227. Second, if a prior art reference teaches identity of function to that specified in the claim, the Examiner carries the initial burden of proof for showing that the prior art structure is the same as or equivalent to the structure described in the specification corresponding to the claimed means function. *See In re Donaldson* Co., 16 F.3d 1189, 299 USPQ.2d 1845 (Fed. Cir. 1994) (emphasis added). The Examiner should provide an explanation and rational in the Office Action to support a finding of equivalence. *See* MPEP 2183, pg. 2100-228.

Applicant submits that the Examiner has failed to meet his initial burden of proof for showing that the structure in the Yokota reference is the same or equivalent to the structure described in the specification of the present invention. In the Office Action, the Examiner stated that claim 1 is anticipated by FIG. 1 of the Yokota reference. *See Office Action*, pg. 3. There was no explanation or rationale provided as to how the structure in the Yokota reference was the same or an equivalent to the structure in the present application that performed each of the functions set forth in claim 1. For this reason, Applicant requests that the rejection of claim 1 be withdrawn.

Furthermore, the Yokota reference does not teach or suggest the identical function of regulating flow of said hydraulic fluid therethrough in a second operating mode at a second and lower hydraulic pressure, wherein said second pressure is

greater than zero as recited in claim 1. The Yokota reference is directed to a pressure control valve assembly (21) that operates in two modes, a neutral mode and an increased pressure mode. In particular, the valve assembly (21) allows a fluid to pass through the pressure control valve assembly (21) at an increased pressure when the solenoid is energized. *See Yokota*, Col. 5, lines 49-68; Col. 6, lines 1-6. However, in the neutral mode, as best seen in FIG. 1 of the Yokota reference, no fluid flows through the valve assembly (21). See *Yokota*, Col. 5, lines 2-35. Therefore, the fluid pressure in the valve assembly (21) is zero when in the neutral mode. *See generally, Specification*, pg. 2, lines 12-17. As such, the Yokota reference does not include any structure for performing the function of regulating the flow of hydraulic fluid through the valve assembly in a second operating mode at a second and lower hydraulic pressure that is greater than zero.

For at least these reasons, Applicant requests that the rejection of claim 1 be withdrawn. As claim 2 depends from claim 1, this claim is also not taught or suggested by the references of record for at least the same reasons set forth with respect to claim 1.

Amended claim 3 is directed to a switchable fluid control valve assembly for controlling flow therethrough at a first and higher hydraulic pressure and being switchable to regulate fluid flow therethrough at a second and lower downstream hydraulic pressure. The valve assembly includes a housing, a regulating spool, a pilot spool, regulating spring means, pilot spring means, actuation means and an apertured separator. The housing has a longitudinal bore therein. The bore includes a regulating chamber and a pilot chamber. The regulating chamber has at

least a first fluid supply port for connection to a fluid source at the first pressure and a fluid control port for connection to an apparatus to be switchably controlled. The pilot chamber has at least a second fluid supply port also for connection to the fluid source at the first pressure and a fluid dump port. The regulating spool is slidably disposed in the regulating chamber and has means for selectively eclipsing the first fluid supply port. The regulating spool also has first and second opposed pressure faces. The pilot spool is slidably disposed in the pilot chamber and has means for selectively eclipsing the second fluid supply port and has means for selectively eclipsing the fluid dump port. The pilot spool further includes means for selectively connecting the second fluid supply port with the regulating chamber. The regulating spring means is for biasing the regulating spool toward a first extreme position in the regulating chamber. The pilot spring means is for biasing the pilot spool toward a second extreme position in the pilot chamber. The actuation means is attached to the pilot spool for selectively positioning the pilot spool within the pilot chamber to fluidly communicate alternatively either the second fluid supply port or the dump port with the second pressure face of the regulating spool. The apertured separator is fixedly disposed within the longitudinal bore to define a boundary between the regulating chamber and the pilot chamber, wherein the apertured separator defines a spring seat for each of the regulating spring means and the pilot spring means.

The Yokota reference does not teach or suggest a switchable fluid control valve assembly including an apertured separator that defines a spring seat for each of the regulating spring means and the pilot spring means as recited in amended claim 3. In the Yokota reference, the portion of the valve housing (22) that the pilot

spring (33) and the regulating spring (55) rest against is a solid member, not an apertured separator. *See Yokota*, FIG. 1.

For at least this reason, Applicant requests that the rejection of claim 3 be withdrawn. As claims 6-9 depend from claim 3, these claims are also not taught or suggested by the references of record for at least the same reason set forth with respect to claim 3.

Claim 10 is directed to an internal combustion engine comprising a two-step valve activation mechanism having a switchable fluid control valve assembly for controlling flow of engine oil therethrough to the two step valve activation mechanism. The switchable fluid control valve assembly includes means for providing flow of the oil therethrough in a first operating mode at a first and high hydraulic pressure to activate the two step valve activation mechanism. The valve assembly also includes means for regulating flow of the oil therethrough in a second operating mode at a second and lower hydraulic pressure to deactivate the two step activation mechanism. The valve assembly further includes means for switching alternatively between the first and second modes.

In rejecting claim 10, the Examiner stated that the preamble of claim 10 merely relates to an intended use and is given no structural weight in an apparatus claim. *See Office Action*, pg. 3. Applicant submits that the "two-step valve activation mechanism" should be considered an element in the claim because it is "necessary to give life, meaning, and vitality" to claim 10. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ.2d 1161, 1165-66 (Fed. Cir. 1999). While, the "two-step valve activation mechanism" is initially recited in the preamble of claim 10,

this particular element is also recited in both parts a) and b) of claim 10. Therefore, the "two-step valve activation mechanism" does limit the structure of claim 10 and should be considered in determining the patentability of claim 10.

Moreover, the Yokota reference does not teach or suggest a switchable fluid control valve assembly including means for activating and deactivating a two step valve activation mechanism as recited in claim 10. The Yokota reference is directed to a valve unit for controlling the fluid pressure to an automotive suspension system, not a two step valve activation mechanism. *See* Col. 4, lines 48-61.

For at least this reason, Applicant requests that the rejection of claim 10 be withdrawn. As claim 11 depends from claim 10, this claim is also not taught or suggested by the references of record for at least the same reasons set forth with respect to claim 10.

Claims 1-4, 6-7 and 10-11 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,408,883 to Motoki et al. ("the Motoki reference"). Claim 4 has been cancelled, therefore the rejection to this claim is moot. Applicant respectfully traverses the rejections to the remaining claims.

As stated above, amended claim 1 includes at least one means plus function claim limitation. Therefore, the Examiner carries the initial burden of proof for showing that the prior art structure is the same as or equivalent to the structure described in the specification corresponding to the claimed means function. *See In re Donaldson* Co., 16 F.3d 1189, 299 USPQ.2d 1845 (Fed. Cir. 1994) (emphasis added).

Applicant submits that the Examiner has failed to meet his initial burden of proof for showing that the structure in the Motoki reference is the same or equivalent to the structure described in the specification of the present invention. In the Office Action, the Examiner stated that claim 1 is anticipated by FIG. 2 of the Motoki reference. *See Office Action*, pg. 3. There was no explanation or rationale provided as to how the structure in the Motoki reference was the same or an equivalent to the structure in the present application that performed each of the functions set forth in claim 1. For this reason, Applicant requests that the rejection of claim 1 be withdrawn.

In addition, the Motoki reference does not teach or suggest the same or equivalent structure in the specification of the present invention for performing the function of providing flow of said hydraulic fluid therethrough in a first operating mode at a first and high hydraulic pressure as set forth in claim 1. In the present application, a portion of the corresponding structure that performs this function is an apertured separator (90) fixedly disposed within the longitudinal bore (68) to define a boundary between the regulating chamber (70) and the pilot chamber (72), wherein the apertured separator defines a spring seat for the regulating spring (22) and the pilot spring (24). *See Specification*, pg. 6, lines 3-9.

As best seen in FIGS. 1 and 2 of the Motoki reference, the screw (50) is seated against the pilot spring (49). *See Motoki*, Col. 5, lines 20-25. However, the regulating spring shown on the left side of FIG. 2 (not labeled) is seated against the control valve wall (200), not the screw (50). Therefore, the Motoki reference does not include the same or equivalent structure as set forth in the present application.

For at least these reasons, Applicant requests that the rejection of claim 1 be withdrawn. As claim 2 depends from claim 1, this claim is also not taught or suggested by the references of record for at least the same reasons set forth with respect to claim 1.

With respect to claim 3, the Motoki reference does not teach or suggest a switchable fluid control valve assembly including an apertured separator that defines a spring seat for each of the regulating spring means and the pilot spring means as recited therein. As stated above, the Motoki reference includes a screw (50) that is seated against the pilot spring (49). *See Motoki*, Col. 5, lines 20-25. However, as best seen on FIG. 2 of the Motoki reference, the regulating spring shown on the left side of FIG. 2 (not labeled) is seated against the control valve wall (200), not the screw (50). The Motoki reference therefore fails to teach an apertured separator that defines a spring seat for each of the regulating spring means and the pilot spring means.

For at least these reasons, Applicant requests that the rejection of claim 3 be withdrawn. As claims 6 and 7 depend from claim 3, these claims are also not taught or suggested by the references of record for at least the same reasons set forth with respect to claim 3.

In rejecting claim 10, the Examiner stated that the preamble of claim 10 merely relates to an intended use and is given no structural weight in an apparatus claim. *See Office Action*, pg. 3. As stated above, Applicant submits that the "two-step valve activation mechanism" does limit the structure of claim 10 because it is

"necessary to give life, meaning, and vitality" to claim 10. *Pitney Bowes*, 182 F.3d at 1305, 51 USPQ.2d at 1165-66; *see supra*, pg. 14-15. As such, the "two-step valve activation mechanism" should be considered in determining the patentability of claim 10.

The Motoki reference does not teach or suggest a switchable fluid control valve assembly including means for activating and deactivating a two step valve activation mechanism as recited in claim 10. The Motoki reference is directed to an electromagnetic valve for controlling the fluid pressure to a clutch of an automotive transmission, not a two step valve activation mechanism. *See* Col. 4, lines 14-17.

For at least this reason, Applicant requests that the rejection of claim 10 be withdrawn. As claim 11 depends from claim 10, this claim is also not taught or suggested by the references of record for at least the same reasons set forth with respect to claim 10.

Claim 5 has been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. *See Office Action*, pg. 4. Therefore, claim 5 has been rewritten as claim 12 and includes all the limitations of original claims 1 and 4.

Conclusion

In light of the foregoing, Applicant submits that claims 1-3 and 5-12 are in condition for allowance and such allowance is respectfully requested. Should the Examiner feel that any unresolved issues remain in this case, the undersigned may

be contacted at the telephone number listed below to arrange for an issue resolving conference.

The Commissioner is hereby authorized to charge the $88.00 fee required under 37 C.F.R. § 1.16(b) for the additional independent claim added to the application, and any other fee that may have been overlooked, to Deposit Account No. 10-0223.

Respectfully submitted,

Dated: 12/2/04

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Annotated Marked-up Drawing

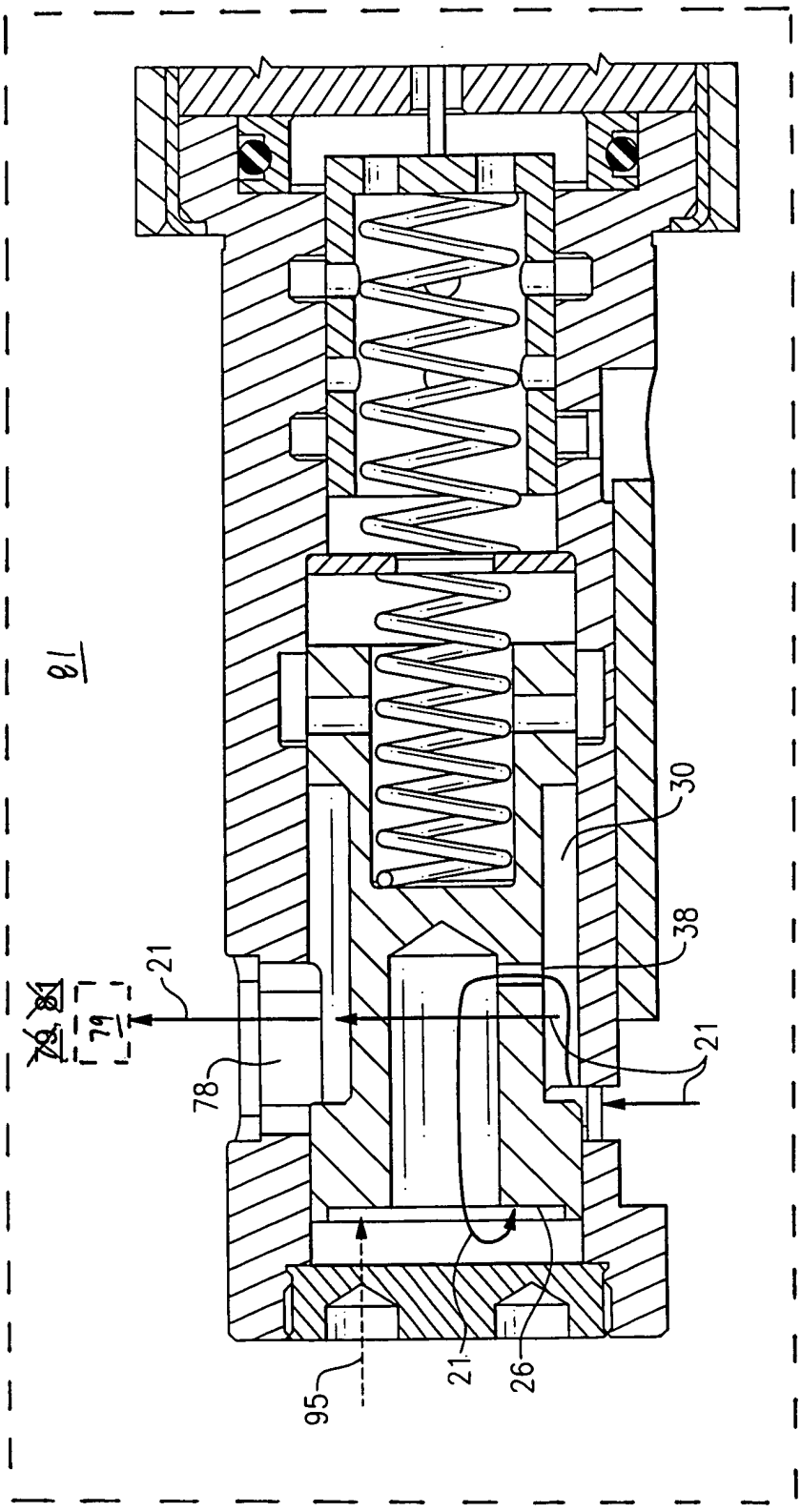

FIG.3